

What is claimed is:

1. A pre-diluted coolant which provides effective metal corrosion inhibition and retains efficient mechanical seal function, comprising as its base component deionized water where corrosive ions and scale forming ions are practically removed or ethylene glycol aqueous solution prepared using such deionized water or propylene glycol aqueous solution prepared using such deionized water.

2. A pre-diluted coolant according to claim 1, wherein said base component contains at least one ingredient, in an effective amount or amounts, selected from the metal inhibitor group consisting of alkali metal salts and amine salts of phosphoric acids, aromatic carboxylates including benzoic acid and alkali metal salts, ammonium salts and amine salts thereof, alkylbenzoic acids having a chemical structure $R-C_6H_4-COOH$ (R is a C1-C5 alkyl group) and alkali metal salts, ammonium salts and amine salts thereof, alkoxybenzoic acids having a chemical structure $RO-C_6H_4-COOH$ (R is a C1-C5 alkyl group) and alkali metal salts, ammonium salts and amine salts thereof, cinnamic acids, alkylcinnamic acids and alkoxycinnamic acids having a chemical structure $R-C_6H_4-CH=CHCOOH$ (R is a C1-C5 alkyl or alkoxy group) and alkali metal salts, ammonium salts and amine salts thereof, aliphatic carbokylates including C6-C12 aliphatic monobasic acids and C6-C12 aliphatic dibasic acids and their alkali metal salts, ammonium salts and amine salts, aromatic polyvalent carboxylic acids, molybdates, tungstates, vanadates, alkali metal salts of nitric acid, alkali metal salts of silicic acids, alkali

metal salts of boric acids, alkali metal salts of nitrous acid, triazole hydrogencarbonate, mercaptobenzothiazole, strontium compounds, 2-phosphonobutane-1,2,4 tricarboxylic acid and alkali metal salts thereof.

3. A pre-diluted coolant according to claim 1 or 2, wherein alkali metal salts and amine salts of phosphoric acids, alkali metal salts of silicic acids, alkali metal salts of boric acids, alkali metal salts of nitrous acid, aliphatic monobasic acids and aliphatic dibasic acids are excluded and not contained in said base component, wherein at least one of 0.1-5.0 wt. % of p-tert butyl benzoic acid and alkali metal salts thereof, and at least one of 0.01-1.0 wt. % of triazoles are contained in said base component.

4. A pre-diluted coolant according to claim 1 or 2, wherein 0.01-8.0 wt. % of alkylbenzoic acids having a chemical structure $R-C_6H_4-COOH$ (R is a C1-C5 alkyl group) or their alkali metal salts, ammonium salts or amine salts are contained in said base component.

5. A pre-diluted coolant according to claim 1 or 2, wherein 0.01-8.0 wt. % of alkoxybenzoic acids having a chemical structure $RO-C_6H_4-COOH$ (R is a C1-C5 alkyl group) or their alkali metal salts, ammonium salts or amine salts are contained in said base component.

6. A pre-diluted coolant according to claim 1 or 2, wherein 0.01-8.0 wt. % of cinnamic acids, alkylcinnamic acids or alkoxy-cinnamic acids having a chemical structure $R-C_6H_4-$

CH=CHCOOH (R is H, or a C1-C5 alkyl or alkoxy group), or their alkali metal salts, ammonium salts or amine salts are contained in said base component.

7. A pre-diluted coolant according to claim 1 or 2, wherein alkali metal salts and amine salts of phosphoric acids, alkali metal salts of silicic acids, alkali metal salts of boric acids and alkali metal salts of nitrous acid are excluded and not contained in said base component, wherein 0.1-4.0 wt.% of at least one of sebacic acid and alkali metal salts thereof, and 0.1-3.0 wt.% of at least one of p-tert butylbenzoic acids and alkali metal salts thereof are contained in said base component.

8. A pre-diluted coolant according to claim 1 or 2, wherein phosphates, amine salts, silicates, borates and nitrites are excluded and not contained in said base component, wherein 0.1-0.4 wt.% of at least one of sebacic acid and alkali metal salts thereof, 0.1-3.0 wt.% of at least one of undecanoic diacid and dodecanoic diacid and their alkali metal salts, and 0.01-1.0 wt.% of at least one of triazoles are contained in said base component.

9. A pre-diluted coolant according to claim 1 or 2, wherein 0.02-5.0 wt.% of at least one of C6-C12 aliphatic monobasic acids and their salts, and 0.02-5.0 wt.% of at least one of alkoxybenzoic acids having a C1-C5 alkoxy group and their salts are contained in said base component.

10. A pre-diluted coolant according to claim 9, further

containing 0.1-1.0 wt.% of at least one of triazoles.

11. Apre-diluted coolant according to claim 9 or 10, wherein amine salts and borates are excluded and not contained.

12. Apre-diluted coolant according to claim 1 or 2, wherein 0.02-5.0 wt.% of at least one of hexanoic acid and heptanoic acid and their salts, and 0.02-5.0 wt.% of at least one of alkylbenzoic acids having a C1-C5 group and salts thereof are contained in said base component.

13. A pre-diluted coolant according to claim 12, further containing 0.01-1.0 wt.% of at least one of triazoles.

14. A pre-diluted coolant according to claim 12 or 13, wherein amine salts and borates are excluded and not contained.

15. Apre-diluted coolant according to claim 1 or 2, wherein 0.02-5.0 wt.% of at least one of C6-C12 aliphatic monobasic acids and salts thereof, and 0.02-5.0 wt.% of at least one of cinnamic acids, alkylcinnamic acids and alkoxycinnamic acids having a chemical structure $R-C_6H_4-CH=CHCOOH$ (R is a C1-C5 alkyl group or alkoxyl group) and their alkali metal salts, ammonium salts and amine salts are contained in said base component.

16. A pre-diluted coolant according to claim 15, further containing 0.01-1.0 wt.% of at least one of triazoles.

17. A pre-diluted coolant according to claim 15 or 16,

sub 1A4 cont 3 wherein amine salts and borates are excluded and not contained.

18. A pre-diluted coolant according to claim 1 or 2, wherein 0.01-8.0 wt.% of at least one of p-toluic acid salts and 0.002-1.0 wt.% of at least one of molybdates.

19. A pre-diluted coolant according to claim 18, further containing 0.01-8.0 wt.% of at least one of benzoates.

20. A pre-diluted coolant according to claim 18, further containing 0.01-8.0 wt.% of p-tert butylbenzoic acid.

sub 25 21. A pre-diluted coolant according to any of claims 18-20, wherein nitrites are excluded and not contained.

22. A pre-diluted coolant according to claim 1 or 2, wherein 0.01-8.0 wt.% of at least one of benzoates, 0.01-8.0 wt.% of p-tert butylbenzoic acid and 0.002-1.0 wt.% of at least one of molybdates are contained in said base component.

23. A pre-diluted coolant according to claim 22, further containing 0.01-8.0 wt.% of at least one of p-toluic acid salts.

sub 26 24. A pre-diluted coolant according to claim 22 or 23, wherein nitrites are excluded and not contained.

25. A pre-diluted coolant according to claim 1 or 2, wherein 0.01-8.0 wt.% of at least one of benzoates and 0.01-8.0 wt.% of at least one of p-toluic acid salts are contained in said

base component.

26. A pre-diluted coolant according to claim 25, further containing 0.01-8.0 wt.% of p-tert butylbenzoic acid.

pub 27
27. A pre-diluted coolant according to claim 25 or 26, wherein nitrites are excluded and not contained.

28. A pre-diluted coolant according to claim 1 or 2, wherein 0.00002-0.1 wt.% of at least one of strontium compounds is contained in said base component.

29. A pre-diluted coolant according to claim 1 or 2, containing 0.01-3.0 wt.% of at least one of phosphoric acids and salts thereof, 0.001-0.5 wt.% of at least one of molybdic acid, tungstic acid and vanadic acid and their salts, and 0.001-0.5 wt.% of at least one of triazoles and salts thereof.

30. A pre-diluted coolant according to claim 1 or 2, wherein 0.002-1.0 wt.% of at least one of 2-phosphonobutane-1,2,4 tricarboxylic acids and aqueous solutions thereof, at least one of phosphates, at least one of nitrates, at least one of benzoates and at least one of triazoles are contained in said base component.

31. A pre-diluted coolant according to claim 30, wherein 0.002-2.0 wt.% of at least one of phosphates, 0.002-1.0 wt.% of at least one of nitrates, 0.02-6.0 wt.% of at least one of benzoates, and 0.01-2.0 wt.% of at least one of triazoles are contained in said base component.